

CLAIMS:

1. Blow-molded article takeout and transfer apparatus for use with a vertically disposed wheel blow molding machine, comprising:
 - a powered takeaway conveyor for transporting blown articles from the wheel blow molding machine, said takeaway conveyor having an inclined receiving end and a substantially horizontally disposed transporting section extending from said receiving end, said receiving end being located underneath the wheel blow molding machine for receiving blown articles in a free gravitational vertical-fall from the wheel blow molding machine; and
 - a powered endless positioning belt located above said takeaway conveyor and extending a spaced distance from said inclined receiving end of said takeaway conveyor for confining the blown articles falling from the wheel blow molding machine on said inclined receiving end of said takeaway conveyor so that the blown articles are positioned on said takeaway conveyor in a controlled uniform manner.

2. Blow molded article takeout and transfer apparatus according to claim 1, wherein said inclined receiving end of said takeaway conveyor is inclined at an angle

within a range of between bout 60° to about 85° relative to said transporting section of said takeaway conveyor.

3. Blow molded article takeout and transfer apparatus according to claim 2, wherein an elongate portion of said positioning belt extends along and faces a major portion of said inclined receiving end of said takeaway conveyor and is substantially parallel to said inclined receiving end.

4. Blow molded article takeout and transfer apparatus according to claim 3, wherein said takeaway conveyor rotates in a direction such that the blown articles located on said transporting section are transported in a direction away from said inclined receiving end; and wherein said positioning belt rotates in an opposite direction relative to said takeaway conveyor, whereby said inclined receiving end of said takeaway conveyor and said elongate portion of said positioning belt both travel in a downward direction.

5. Blow molded article takeout and transfer apparatus according to claim 4, wherein said inclined receiving end travels at a greater speed than said elongate portion of said positioning belt.

6. Blow molded article takeout and transfer apparatus according to claim 3, wherein said takeaway conveyor has a plurality of equally spaced-apart upstanding

flanges, and wherein said flanges are spaced apart at a distance which enables a pair of blown articles to be located between each adjacent pair of upstanding flanges.

7. Blow molded article takeout and transfer apparatus according to claim 6, wherein said positioning belt includes at least one foam padded belt.

8. Blow molded article takeout and transfer apparatus according to claim 6, wherein said positioning belt is adjustable relative to said inclined receiving end of said takeaway conveyor so that said spaced distance between said positioning belt and said inclined receiving end is adjustable to the diameter of the blown article being received and transported.

9. A method for removing blown articles from a vertically disposed wheel blow molding machine and placing the articles in a controlled uniform manner on a takeaway conveyor, comprising:

releasing blown articles from a vertically disposed wheel blow molding machine so that said blown articles exit said blow molding machine in a free gravitational vertical-fall;
receiving said free falling articles on an inclined end of a powered takeaway conveyor located underneath said wheel blow molding machine;

confining said blown articles on said inclined end of said takeaway conveyor with a powered endless positioning belt located above said takeaway conveyor and extending along and a spaced distance from said inclined end of said takeaway conveyor such that said blown articles are located between and are engaged by said inclined end and said positioning belt to position said blown articles on said takeaway conveyor in a controlled uniform manner; and

transporting said blown articles on said takeaway conveyor away from the wheel blow molding machine.

10. A method according to claim 9, wherein said blown articles are released two at a time from the wheel blow molding machine and are received two at a time on said inclined end of said takeaway conveyor.

11. A method according to claim 10, wherein each blown article includes a pair of bottles integrally attached by flash material, whereby four bottles in a two by two manner are released at a time from the wheel blow molding machine.

12. A method according to claim 11, wherein at least 500 bottles per minute are transferred in a uniform manner from said wheel blow molding machine to said takeaway conveyer.

13. A method according to claim 12, wherein at least 700 bottles per minute are transferred in a uniform manner from said wheel blow molding machine to said takeaway conveyer.

14. A method according to claim 13, wherein at least 850 bottles per minute are transferred in a uniform manner from said wheel blow molding machine to said takeaway conveyer.

15. A method according to claim 10, wherein said inclined end of said takeaway conveyor is inclined at an angle within a range of between about 60° to 85° relative to the horizontal.

16. A method according to claim 15, wherein an elongate portion of said positioning belt extends along and faces a major portion of said inclined end of said takeaway conveyor and is substantially parallel to said inclined end.

17. A method according to claim 16, wherein a conveying surface of said inclined end of said takeaway conveyor advances at a predetermined speed in a downward direction, and wherein said elongate portion of said positioning belt advances at a predetermined speed in a downward direction such that said blown articles confined between said conveying surface of said inclined end and said positioning belt are conveyed downwardly.

18. A method according to claim 10, wherein said takeaway conveyor has a plurality of equally spaced-apart upstanding flanges, and wherein a pair of blown articles are received on said inclined end and are located between a pair of adjacent upstanding flanges.

19. A method according to claim 18, further comprising the step of synchronizing said takeaway conveyor with said wheel blow molding machine such that a pair of separate blown articles are located on said inclined end of said takeaway conveyor between each adjacent pair of upstanding flanges.